Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **CHC06050**
Product name **CHEMISOL MARKER PAINT 500 ml CHEMITOOL**
UFI : **Q850-T0R1-N00H-0V7F**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **360° Marker Paint in aerosol.**

Identified Uses	Industrial	Professional	Consumer
Consumer	-	-	✔
Industrial Use	✔	-	-
Professional Use	-	✔	-

1.3. Details of the supplier of the safety data sheet

Name **LUSAVOUGA – Máquinas e Acessórios Industriais, S.A.**
Full address **Edifício Lusavouga**
Avenida Europa, 375
District and Country **3800-533 Cacia**
Portugal
tel. +351 234 915 010
fax +351 234 915 015
e-mail address of the competent person
responsible for the Safety Data Sheet **qualidade@lusavouga.pt**

1.4. Emergency telephone number

For urgent inquiries refer to **GB - National Poisons Information Service (NPIS) Tel. 0344 892 0111 (United Kingdom)**
Members of the Public: NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales)
USA - American Association of Poison Control Centers: Tel. 1 800 222 1222 (U.S.A.)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Aerosol, category 1	H222	Extremely flammable aerosol.
	H229	Pressurised container: may burst if heated.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50°C / 122°F.
P211	Do not spray on an open flame or other ignition source.
P102	Keep out of reach of children.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.

Contains: Methyl acetate
N-butyl acetate
Isobutyl acetate

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	**x = Conc. %**	**Classification 1272/2008 (CLP)**
Methyl acetate		
CAS 79-20-9	15 ≤ x < 19	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 201-185-2		
INDEX 607-021-00-X		
Reg. no. 01-2119459211-47-XXXX		

Propane
CAS 74-98-6 — 15 ≤ x < 19 — Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note/notes according to Annex VI to the CLP Regulation: U
EC 200-827-9
INDEX 601-003-00-5
Reg. no. 01-2119486944-21-0046

Xylene (mixture of isomers)
CAS 1330-20-7 — 11 ≤ x < 15 — Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Classification note/notes according to Annex VI to the CLP Regulation: C
EC 215-535-7
INDEX 601-022-00-9
Reg. no. 01-2119488216-32-XXXX

Petroleum Resins
CAS 64742-16-1 — 11 ≤ x < 15 — Aquatic Chronic 4 H413
EC 265-116-8
INDEX -

N-butyl acetate
CAS 123-86-4 — 7 ≤ x < 9 — Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
EC 204-658-1
INDEX 607-025-00-1
Reg. no. 01-2119485493-29-XXXX

Butane
CAS 106-97-8 — 7 ≤ x < 9 — Flam. Gas 1A H220, Press. Gas (Liq.) H280, Classification note/notes according to Annex VI to the CLP Regulation: C U
EC 203-448-7
INDEX 601-004-00-0
Reg. no. 01-2119474691-32-XXXX

2-methoxy-1-methylethyl acetate
CAS 108-65-6 — 1 ≤ x < 3 — Flam. Liq. 3 H226
EC 203-603-9
INDEX 607-195-00-7
Reg. no. 01-2119475791-29-XXXX

Isobutane
CAS 75-28-5 — 1 ≤ x < 3 — Flam. Gas 1A H220, Press. Gas H280
EC 200-857-2
INDEX 601-004-00-0
Reg. no. 01-2119485395-27-XXXX

Isobutyl acetate
CAS 110-19-0 — 1 ≤ x < 3 — Flam. Liq. 2 H225, STOT SE 3 H336, EUH066, Classification note/notes according to Annex VI to the CLP Regulation: C
EC 203-745-1
INDEX 607-026-00-7
Reg. no. 01-2119488971-22-XXXX

Methyl formate
CAS 107-31-3 — 1 ≤ x < 3 — Flam. Liq. 1 H224, Acute Tox. 4 H332, Asp. Tox. 1 H304, Eye Irrit. 2 H319, STOT SE 3 H335
EC 203-481-7
INDEX 607-014-00-1

Reg. no. 01-2119487303-38-XXXX		
Methanol		
CAS 67-56-1	0,5 ≤ x < 1	Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370
EC 200-659-6		
INDEX 603-001-00-X		
Reg. no. 01-2119433307-44-XXXX		
Quartz		
CAS 14808-60-7	0 ≤ x < 0,5	STOT RE 2 H373
EC 238-878-4		
INDEX -		
Formaldehyde		
CAS 50-00-0	0 ≤ x < 0,1	Carc. 1B H350, Muta. 2 H341, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Skin Sens. 1 H317, Classification note/notes according to Annex VI to the CLP Regulation: B D
EC 200-001-8		
INDEX 605-001-00-5		
Reg. no. 01-2119459333-39-XXXX		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

The product is an aerosol containing propellants. For the purposes of calculation of the health hazards, propellants are not considered (unless they have health hazards). The percentages indicated are inclusive of the propellants.

Percentage of propellants: 27,00 %

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product are unknown.

4.3. Indication of any immediate medical attention and special treatment needed

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. Send away individuals who are not suitably equipped. Wear protective gloves / protective clothing / eye protection / face protection.

6.2. Environmental precautions

Do not disperse in the environment.

6.3. Methods and material for containment and cleaning up

Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Do not eat, drink or smoke during use. Do not breathe spray.

7.2. Conditions for safe storage, including any incompatibilities

Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C / 122°F, away from any combustion sources.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	ΕΦΗΜΕΡΙΔΑ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

Methyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	620	200	1240 (C)	400 (C)	
MAK	DEU	310	100	1240	400	
VLA	ESP	616	200	770	250	
VLEP	FRA	610	200	760	250	SKIN
TLV	GRC	610	200	760	250	
NDS/NDSCh	POL	250		600		
WEL	GBR	616	200	770	250	
TLV-ACGIH		606	200	757	250	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	120	µg/l
Normal value in marine water	12	µg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		44 mg/kg bw/d				
Inhalation	VND	VND	152 mg/m3		VND	VND	305 mg/m3	610 mg/m3
Skin			NPI	44 mg/kg bw/d	NPI	VND	NPI	88 mg/kg bw/d

Propane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	1800	1000	7200	4000	
MAK	DEU	1800	1000	7200	4000	
VLA	ESP		1000			
TLV	GRC	1800	1000			
NDS/NDSCh	POL	1800				

Xylene (mixture of isomers)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
VLEP	ITA	221	50	442	100	SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSCh	POL	100		200		SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	327	µg/l
Normal value in marine water	327	µg/l
Normal value for fresh water sediment	12,46	mg/kg/d
Normal value for marine water sediment	12,46	mg/kg/d
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,6 mg/kg bw/d				
Inhalation				14,8 mg/m3			289 mg/m3	77 mg/m3
Skin				108 mg/kg bw/d				180 mg/kg bw/d

Talc

Predicted no-effect concentration - PNEC		
Normal value in fresh water	597,97	mg/l
Normal value in marine water	141,26	mg/l
Normal value for fresh water sediment	31,33	mg/kg/d
Normal value for marine water sediment	3,13	mg/kg/d
Normal value for water, intermittent release	597,97	mg/l
Normal value for the atmosphere	10	mg/m3

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		160 mg/kg bw/d		160 mg/kg bw/d				
Inhalation	1,8 mg/m3	1,08 mg/m3	1,8 mg/m3	1,08 mg/m3	3,6 mg/m3	2,16 mg/m3	3,6 mg/m3	2,16 mg/m3
Skin			2,27 mg/cm2	2,16 mg/kg bw/d			4,54 mg/cm2	43,2 mg/kg bw/d

N-butyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
TLV	GRC	710	150	950	200	
NDS/NDSCh	POL	240		720		
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	180	µg/l
Normal value in marine water	18	µg/l
Normal value for fresh water sediment	981	µg/kg/d
Normal value for marine water sediment	98,1	µg/kg/d
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	90,3	µg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		2 mg/kg bw/d		2 mg/kg bw/d		2		2
Inhalation	300 mg/m3	300 mg/m3	35,7 mg/m3	12 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	48 mg/m3
Skin	NPI	6 mg/kg bw/d	NPI	3,4 mg/kg bw/d	NPI	11 mg/kg bw/d	NPI	7 mg/kg bw/d

Butane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	2400	1000	9600	4000	
MAK	DEU	2400	1000	9600	4000	
VLA	ESP		1000			Gases
VLEP	FRA	1900	800			
TLV	GRC	2350	1000			
NDS/NDSCh	POL	1900		3000		
WEL	GBR	1450	600	1810	750	
WEL	GBR		4			RESP
TLV-ACGIH					1000	

2-methoxy-1-methylethyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	ESP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
TLV	GRC	275	50	550	100	
VLEP	ITA	275	50	550	100	SKIN
VLE	PRT	275	50	550	100	SKIN
NDS/NDSCh	POL	260		520		SKIN
WEL	GBR	274	50	548	100	SKIN
OEL	EU	275	50	550	100	SKIN

Predicted no-effect concentration - PNEC		
Normal value in fresh water	635	µg/l
Normal value in marine water	63,5	µg/l
Normal value for fresh water sediment	3,29	mg/kg/d
Normal value for marine water sediment	329	µg/kg/d
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	290	µg/kg soil dw

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		36 mg/kg bw/d				
Inhalation	NPI	NPI	33 mg/m3	33 mg/m3	550 mg/m3	NPI	NPI	275 mg/m3
Skin	NPI	NPI	NPI	320 mg/kg bw/d	NPI	NPI	NPI	796 mg/kg bw/d

Isobutane

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			800			

Isobutyl acetate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	724	150			
VLEP	FRA	710	150	940	200	
TLV	GRC	950	200	950	200	
NDS/NDSCh	POL	240		720		

WEL	GBR	724	150	903	187			
OEL	EU	241	50	723	150			
TLV-ACGIH			50		150			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	170	µg/l
Normal value in marine water	17	µg/l
Normal value for fresh water sediment	877	µg/kg/d
Normal value for marine water sediment	87,7	µg/kg/d
Normal value of STP microorganisms	200	mg/l
Normal value for the terrestrial compartment	75,5	µg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		5 mg/kg bw/d		5 mg/kg bw/d				
Inhalation	300 mg/m3		35,7 mg/m3	35,7 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	300 mg/m3
Skin	NPI	5 mg/kg bw/d	NPI	5 mg/kg bw/d	NPI	10 mg/kg bw/d	NPI	10 mg/kg bw/d

Methyl formate

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		246	100			

Predicted no-effect concentration - PNEC		
Normal value in fresh water	115	µg/l
Normal value in marine water	11,5	µg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation				14,29 mg/m3		VND		
Skin					VND	VND	NPI	

Methanol

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm		
AGW	DEU	270	200	1080	800	SKIN	
MAK	DEU	130	100	260	200	SKIN	
VLA	ESP	266	200			SKIN	
VLEP	FRA	260	200	1300	1000	SKIN	11
TLV	GRC	260	200	325	250		
VLEP	ITA	260	200			SKIN	
VLE	PRT	260	200			SKIN	
NDS/NDSCh	POL	100		300		SKIN	
WEL	GBR	266	200	333	250	SKIN	
OEL	EU	260	200				
TLV-ACGIH		262	200	328	250	SKIN	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	20,8	mg/l
Normal value in marine water	2,08	mg/l
Normal value for fresh water sediment	77	mg/kg/d
Normal value for marine water sediment	7,7	mg/kg/d
Normal value for water, intermittent release	1,54	g/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	100	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		8 mg/kg bw/d		8 mg/kg bw/d				
Inhalation	50 mg/m3	50 mg/m3	50 mg/m3	50 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3	260 mg/m3
Skin		8 mg/kg bw/d		8 mg/kg bw/d		40 mg/kg bw/d		40 mg/kg bw/d

Quartz

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP		0,05			RESP
VLEP	FRA	0,1				RESP
VLEP	ITA	0,1				RESP
NDS/NDSCh	POL	0,1				RESP
OEL	EU	0,1				RESP
TLV-ACGIH		0,025				

C.I. Basic Red 1:1

Predicted no-effect concentration - PNEC		
Normal value in fresh water	23	ng/L
Normal value in marine water	2,3	ng/L
Normal value for fresh water sediment	989	µg/kg/d
Normal value for marine water sediment	98,9	µg/kg/d
Normal value for water, intermittent release	230	ng/L
Normal value of STP microorganisms	330	µg/L
Normal value for the food chain (secondary poisoning)	100	µg/kg
Normal value for the terrestrial compartment	198	µg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation						200 µg/m³		60 µg/m³
Skin					250 µg/cm²	60 µg/kg bw/day	125 µg/cm²	20 µg/kg bw/day

Copper phthalocyanine

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	0,1				RESP Como Cu
WEL	GBR	1		2		As Cu

Predicted no-effect concentration - PNEC		
Normal value for fresh water sediment	10	mg/kg/d
Normal value for marine water sediment	1	mg/kg/d
Normal value for the terrestrial compartment	1	mg/kg/d
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral								45 mg/kg bw/d
Inhalation								4 mg/m3
Skin							450 mg/kg bw/d	225 mg/kg bw/d

Polychloro copper phthalocyanine

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	1				

Formaldehyde

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	0,37	0,3	0,74	0,6	
VLA	ESP	0,37	0,3	0,74	0,6	
VLEP	FRA		0,5		1	
TLV	GRC	2,5	2	2,5	2	
NDS/NDSCh	POL	0,37		0,74		SKIN
WEL	GBR	2,5	2	2,5	2	
OEL	EU	0,37	0,3	0,74	0,6	
TLV-ACGIH			0,1		0,3 (C)	

Predicted no-effect concentration - PNEC		
Normal value in fresh water	440	µg/l
Normal value in marine water	440	µg/l
Normal value for fresh water sediment	2,3	mg/kg/d
Normal value for marine water sediment	2,3	mg/kg/d
Normal value for water, intermittent release	4,44	mg/l
Normal value of STP microorganisms	190	µg/l
Normal value for the terrestrial compartment	200	µg/kg/d
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		4,1 mg/kg bw/d				
Inhalation	NPI	NPI	100 µg/m3	3,2 mg/m3	750 µg/m3	NPI	375 µg/m3	9 mg/m3
Skin	NPI	NPI	12 µg/cm2	102 mg/kg bw/d	NPI	NPI	37 µg/cm2	240 mg/kg bw/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION
None required.

SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (see standard EN 14387).
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	aerosol
Colour	various
Odour	characteristic of solvent
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	Not available
Boiling range	Not available
Flash point	< 0 °C
Evaporation Rate	Not available
Flammability of solids and gases	flammable gas
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	0,82 ÷ 0,86 g/ml a 20°C
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Da 28" a 33" Coppa Ford
Explosive properties	not applicable
Oxidising properties	not applicable

9.2. Other information

VOC (Directive 2004/42/EC) :	69,50 % - 500,39 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

N-butyl acetate

Decomposes on contact with: water.

2-methoxy-1-methylethyl acetate

Stable in normal conditions of use and storage.On contact with: strong oxidising agents.

With the air it may slowly develop peroxides that explode with an increase in temperature.

Isobutyl acetate

Decomposes under the effect of heat.Attacks various types of plastic materials.

Formaldehyde

Decomposes under the effect of heat.

Acqueous solutions are stabilised with methanol but tend to polymerise over time.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

Xylene (mixture of isomers)

Stable in normal conditions of use and storage.Reacts violently with: strong oxidants,strong acids,nitric acid,perchlorates.May form explosive mixtures with: air.

N-butyl acetate

Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

2-methoxy-1-methylethyl acetate

May react violently with: oxidising substances,strong acids,alkaline metals.

Isobutyl acetate

Risk of explosion on contact with: strong oxidising agents.May react violently with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

Formaldehyde

Risk of explosion on contact with: nitromethane,nitrogen dioxide,hydrogen peroxide,phenoles,performic acid,nitric acid.May polymerise on contact with: strong oxidising agents,alkalis.May react dangerously with: hydrochloric acid,magnesium carbonate,sodium hydroxide,perchloric acid,aniline.Forms explosive mixtures with: air.

10.4. Conditions to avoid

Avoid overheating.

N-butyl acetate

Avoid exposure to: moisture,sources of heat,naked flames.

Isobutyl acetate

Avoid exposure to: sources of heat,naked flames.

Formaldehyde

Avoid exposure to: light,sources of heat,naked flames.

10.5. Incompatible materials

Strong reducing or oxidising agents, strong acids or alkalis, hot material.

N-butyl acetate

Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.

2-methoxy-1-methylethyl acetate

Incompatible with: oxidising substances,strong acids,alkaline metals.

Isobutyl acetate

Incompatible with: strong oxidants,nitrates,strong acids,strong bases.

Formaldehyde

Incompatible with: acids,alkalis,ammonia,tannin,strong oxidants,phenoles,copper salts,silver,iron.

10.6. Hazardous decomposition products

Formaldehyde

When heated to decomposition releases: methanol,carbon monoxide.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

2-methoxy-1-methylethyl acetate

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure

Xylene (mixture of isomers)

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air.

N-butyl acetate

WORKERS: inhalation; contact with the skin.

2-methoxy-1-methylethyl acetate

WORKERS: inhalation; contact with the skin.

Methanol

WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Xylene (mixture of isomers)

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

N-butyl acetate

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

2-methoxy-1-methylethyl acetate

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

Methanol

The minimum lethal dose for humans by ingestion is considered to be in the range from 300 to 1000 mg/kg. Ingestion of 4-10 ml of the substance may

cause permanent blindness in adult humans (IPCS).

Interactive effects

Xylene (mixture of isomers)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

N-butyl acetate

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

ATE (Inhalation) of the mixture:
> 20 mg/l
ATE (Oral) of the mixture:
>2000 mg/kg
ATE (Dermal) of the mixture:
>2000 mg/kg

Petroleum Resins

LD50 (Oral) 2000 mg/kg

Xylene (mixture of isomers)

LD50 (Oral) > 3000 mg/kg rat

LD50 (Dermal) > 1700 mg/kg rabbit

LC50 (Inhalation) 5000 ppm/4h rat

2-methoxy-1-methylethyl acetate

LD50 (Oral) > 5000 mg/kg Rat

LD50 (Dermal) > 5000 mg/kg Rat

LC50 (Inhalation) 1805,05 ppm LC0 (4 h) rat

Butane

LC50 (Inhalation) > 1442,738 mg/l/15min rat

Propane

LC50 (Inhalation) 800000 ppm 15 min

Methanol

LD50 (Oral) 1978 mg/kg bw rat

LC50 (Inhalation) 123,3 mg/l/4h rat

Formaldehyde

LD50 (Oral) 460 mg/kg rat - Category 4 based on GHS criteria

LC50 (Inhalation) 463 ppm/4h rat - Category 2 based on GHS criteria

Methyl acetate

LD50 (Oral) 6482 mg/kg rat

LD50 (Dermal) 2000 mg/kg bw rat

LC50 (Inhalation) 49,2 mg/l/4h rabbit

N-butyl acetate

LD50 (Oral) > 10000 mg/kg Rat

LD50 (Dermal) > 5000 mg/kg rabbit

LC50 (Inhalation) 0,74 mg/l/4h Rat

Isobutyl acetate

LD50 (Oral) 13413 mg/kg bw rat

LD50 (Dermal) 17400 mg/kg bw rabbit

LC50 (Inhalation) 30 mg/l/6h rat

Isobutane

LC50 (Inhalation) > 1442,738 mg/l/15min rat

Methyl formate

LD50 (Oral) 1500 mg/kg bw rat

LD50 (Dermal) 4000 mg/kg bw rat

LC50 (Inhalation) 5,2 mg/l/4h rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

Xylene (mixture of isomers)

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

Petroleum Resins	
EC50 - for Crustacea	100 mg/l/48h
EC50 - for Algae / Aquatic Plants	100 mg/l/72h
Xylene (mixture of isomers)	
LC50 - for Fish	2,6 mg/l/96h
EC50 - for Algae / Aquatic Plants	4,6 mg/l/72h
EC10 for Crustacea	1,9 mg/l/21d
Chronic NOEC for Fish	1,3 mg/l 56 days
Chronic NOEC for Crustacea	960 µg/l 7 days
Chronic NOEC for Algae / Aquatic Plants	440 µg/l 73 h
2-methoxy-1-methylethyl acetate	
LC50 - for Fish	> 100 mg/l/96h
EC50 - for Crustacea	> 100 mg/l/48h
EC50 - for Algae / Aquatic Plants	> 100 mg/l/72h
Chronic NOEC for Fish	> 10 mg/l 14 days
Chronic NOEC for Crustacea	100 mg/l
Chronic NOEC for Algae / Aquatic Plants	1 g/l 4 days
Butane	
LC50 - for Fish	> 24,11 mg/l/96h
Propane	
LC50 - for Fish	85,82 mg/l/96h
EC50 - for Crustacea	41,82 mg/l/48h
Methanol	
LC50 - for Fish	15,4 g/l/96h
Chronic NOEC for Fish	446,7 mg/l 28 days
Chronic NOEC for Crustacea	208 mg/l 21 days
Formaldehyde	
LC50 - for Fish	6,7 mg/l/96h
EC50 - for Algae / Aquatic Plants	3,48 mg/l/72h
EC10 for Crustacea	5,8 mg/l/48h
Chronic NOEC for Crustacea	6,4 mg/l 21 days

Methyl acetate	
LC50 - for Fish	300 mg/l/96h
EC50 - for Crustacea	1,027 g/l
EC50 - for Algae / Aquatic Plants	120 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants	120 mg/l 72 h

N-butyl acetate	
LC50 - for Fish	18 mg/l/96h
EC50 - for Crustacea	32 mg/l/48h
EC50 - for Algae / Aquatic Plants	246 mg/l/72h
Chronic NOEC for Crustacea	23,2 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	105 mg/l 72 h

Isobutyl acetate	
LC50 - for Fish	16,6 mg/l/96h
EC50 - for Crustacea	24,6 mg/l/48h
EC50 - for Algae / Aquatic Plants	321,5 mg/l/72h
Chronic NOEC for Crustacea	23,2 mg/l 21 days
Chronic NOEC for Algae / Aquatic Plants	1505 mg/l 72 h

Isobutane	
LC50 - for Fish	> 24,11 mg/l/96h

Methyl formate	
LC50 - for Fish	115 mg/l/96h
EC50 - for Crustacea	500 mg/l/48h
EC50 - for Algae / Aquatic Plants	1,079 g/l/72h
EC10 for Algae / Aquatic Plants	131,2 mg/l/72h
Chronic NOEC for Fish	46 mg/l 4 days

12.2. Persistence and degradability

Propane
Global Warming Potential (GWP): 3. Ozone Depletion Potential (ODP): 0.
2-methoxy-1-methylethyl acetate
Easily biodegradable. It is rapidly oxidized into the air by photochemical reaction.

Xylene (mixture of isomers)	
Solubility in water	146 - 208 mg/L @ 25 °C and pH 7 mg/l
Rapidly degradable	

2-methoxy-1-methylethyl acetate	
Solubility in water	> 10000 mg/l
Rapidly degradable	

Butane	
Solubility in water	0,1 - 100 mg/l

Rapidly degradable

Propane
Solubility in water 0,1 - 100 mg/l
Rapidly degradable

Methanol
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

Formaldehyde
Solubility in water 55000 mg/l
Rapidly degradable

Methyl acetate
Solubility in water 243500 mg/l
Rapidly degradable

N-butyl acetate
Solubility in water 5,3 g/l
Rapidly degradable

Isobutyl acetate
Solubility in water 1000 - 10000 mg/l
Rapidly degradable

Isobutane
Rapidly degradable

Methyl formate
Rapidly degradable

12.3. Bioaccumulative potential

Xylene (mixture of isomers)
Partition coefficient: n-octanol/water 3,12
BCF 25,9

2-methoxy-1-methylethyl acetate
Partition coefficient: n-octanol/water 1,2

Butane
Partition coefficient: n-octanol/water 1,09

Propane
Partition coefficient: n-octanol/water 1,09

Methanol

Partition coefficient: n-octanol/water	-0,77
BCF	0,2

Formaldehyde

Partition coefficient: n-octanol/water	0,35
BCF	< 1

Methyl acetate

Partition coefficient: n-octanol/water	0,18

N-butyl acetate

Partition coefficient: n-octanol/water	2,3
BCF	15,3

Isobutyl acetate

Partition coefficient: n-octanol/water	2,3
BCF	15,3

12.4. Mobility in soil

Xylene (mixture of isomers)

Partition coefficient: soil/water	2,73

Formaldehyde

Partition coefficient: soil/water	1,202

Methyl acetate

Partition coefficient: soil/water	0,18

N-butyl acetate

Partition coefficient: soil/water	< 3

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Product residues are to be considered special hazardous waste.
Empty cans, even if completely emptied, must not be dispersed in the environment.
The aerosol container overheated to a temperature above 50Â ° C can burst even if it contains a small residue of gas.
Disposal must take place in an authorized place and in compliance with the laws in force.
Waste transportation can be subject to ADR.

European waste catalog number (contaminated containers):
The aerosol as domestic waste is excluded from the application of the aforementioned standard.
The exhausted aerosol for professional / industrial use can be classified:
15.01.10 *: packaging containing residues of dangerous substances or contaminated by these substances.

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA:	1950

14.2. UN proper shipping name

ADR / RID:	AEROSOLS
IMDG:	AEROSOLS
IATA:	AEROSOLS, FLAMMABLE

14.3. Transport hazard class(es)

ADR / RID:	Class: 2	Label: 2.1
IMDG:	Class: 2	Label: 2.1
IATA:	Class: 2	Label: 2.1

14.4. Packing group

ADR / RID, IMDG, IATA:	-

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: --	Limited Quantities: 1 L	Tunnel restriction code: (D)
	Special Provision: -		
IMDG:	EMS: F-D, S-U	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 150 Kg	Packaging instructions: 203
	Pass.:	Maximum quantity: 75 Kg	Packaging instructions: 203
	Special Instructions:	A145, A167, A802	

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso Category - Directive 2012/18/EC: P3a

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point	40	

Contained substance

Point	69	Methanol Reg. no.: 01-2119433307-44-XXXX
Point	72	Formaldehyde Reg. no.: 01-2119459333-39-XXXX

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Gas 1A	Flammable gas, category 1A
Aerosol 1	Aerosol, category 1
Aerosol 3	Aerosol, category 3
Flam. Liq. 1	Flammable liquid, category 1
Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Press. Gas	Pressurised gas
Press. Gas (Liq.)	Liquefied gas
Carc. 1B	Carcinogenicity, category 1B
Muta. 2	Germ cell mutagenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.

H280	Contains gas under pressure; may burst if heated.
H350	May cause cancer.
H341	Suspected of causing genetic defects.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament

4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.
CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:
The following sections were modified:
08.